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Army-Baylor University Graduate Program in Health and Business Administration

Graduate Management Project:

Inpatient Mental Health Recapture using DoD/VA Sharing

A Business Case Analysis at

Carl R. Darnall Army Medical Center

Fort Hood, Texas

By:

CPT Dalmar A. Jackson, MS, USA

U.S. Army-Baylor University Graduate Program

In Health and Business Administration

Ft Sam Houston, TX

Preceptor: COL William B. Grimes, MS, Chief of Staff, CRDAMC

Academic Advisor: LTC Lee Bewley, Program Director, PhD, MHA, FACHE

Project Advisor: MAJ Brad Beauvais, Assist Professor, PhD, MBA, MA

**Preface**

The views expressed in this paper are those of the author and do not reflect the official policy or position of Carl R. Darnall Army Medical Center (CRDAMC), Central Texas Veteran Health Care System (CTVHCS), Baylor University, the Department of Defense, or the U.S. Government. This report provides approximations of important financial consequences that may be considered in decisions involving a potential sharing agreement between organizations of the Military Health System and the Veteran Health Administration. The analysis is based on information received from representatives of Carl R. Darnall Army Medical Center and The Central Texas Veteran Health Care System. It is recommended that this analysis be used as an aid in the development of the final decision making process to pursue a sharing agreement between the two organizations.

### **Acknowledgements**

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## Executive Summary

Carl R. Darnall Army Medical Center (CRDAMC) in Fort Hood, TX and Central Texas Veteran Health Care System (CTVHCS) provide comprehensive acute psychiatric care to their respective beneficiaries in facilities less than 40 miles apart. With the increase in demand for psychiatric services among active duty beneficiaries, CRDAMC has seen a considerable increase in inpatient psychiatry purchased care. In an effort to reduce network cost and increase sharing efforts between the two organizations, both CRDAMC and CTVHCS are considering a sharing agreement for inpatient psychiatry.

This Business Case Analysis (BCA) provides the command team of CRDAMC the likely cost and benefits associated with a sharing agreement between the two organizations for inpatient acute psychiatric services at the CTVHCS psychiatric facility in Waco, TX. The project compares the return on investment (ROI) of a proposed sharing agreement with the profitability of increasing CRDAMC's own inpatient capabilities. The sharing agreement proposes CTVHCS provides inpatient psychiatric services to active duty personnel in exchange for physician and nursing staff to support the additional workload. Preliminary analysis of a proposed sharing agreement indicates a ROI of 197.5% in comparison to ROI of 87.4% with the recently implemented increase in beds on CRDAMC's inpatient ward. Although the sharing agreement indicates a higher return, CRDAMC implemented business practice yields soft benefits that can not be capitalized upon with a sharing agreement.

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## **Inpatient Mental Health Recapture Using DoD/VA Sharing: A Business Case Analysis**

### **A. Introduction**

Carl R. Darnall Army Medical Center (CRDAMC) located at Fort Hood, TX and Central Texas Veteran Health Care System (CTVHCS) located at Temple, TX, provide comprehensive health care to their respective beneficiaries in facilities less than 40 miles apart. CRDAMC, being part of the Military Health System and CTVHCS being part of the Veterans Healthcare System, are part of large organizations that managed a combined budget of over 76 billion dollars for FY 2008 (GAO, 2008). The two organizations face the challenge of providing health care to a growing patient population with aging facilities, limited resources, and increasing cost. Recognizing the need to reduce the cost of providing health care yet maintaining access to care standards for both DoD/VA beneficiaries, these organizations have been highly encouraged to identify opportunities for sharing services to meet those goals (Public Law 97-114, 1982).

Currently CRDAMC sends nearly \$1 million dollars of active duty inpatient purchased care to the Central Texas TRICARE Provider Network because of their lack of capacity. The CTVHCS Waco facility has projections to increase their capacity for inpatient mental health services due to their establishment as a Behavioral Health Center of Excellence by federal legislation (Embler and Loftus, 2007). Both organizations have identified mental health services as an opportunity for future sharing (Joint Market Opportunities Working Group Meeting, 2008).

This Business Case Analysis (BCA) will first examine the feasibility of a sharing agreement between CRDAMC and CTVHCS for acute psychiatry in which CTVHCS

absorbs active duty patients that can not receive care at CRDAMC due to non-availability. If initial analysis deems to support an executable sharing agreement, the BCA will provide the command team of CRDAMC the likely cost and benefits of such an agreement against the cost and benefits of the organization's current business plan to increase services in acute psychiatry. As background for the project, overviews of the two major federal healthcare systems will be provided along with a brief history of the federal DoD/VA sharing initiative. The analysis will present financial projections and an assessment of contingencies and risks to support a final decision whether to pursue collaboration with CTVHCS or maintain the organization's current operational plan (status quo).

#### **A.1. Military Health System**

The Military Health System (MHS) is a system that supports the military mission by fostering, protecting, sustaining, and restoring health. It also provides the direction, resources, health care providers, and other means necessary for promoting the health of the beneficiary population (Deployment Health and Clinical Center, 2008). The Department of Defense operates one of the largest health-care organizations in the nation serving active duty personnel, retirees, survivors, and their family members. Components of the system include Army, Air Force and Navy military treatment facilities (MTFs), the TRICARE program, and Health Affairs (HA). The MHS global infrastructure includes 63 inpatient facilities, 1,087 medical, dental and veterinary clinics, and close to 131,000 military and civilian personnel providing medical services to 9.1 million eligible beneficiaries (MHS Human Capital Strategic Plan, 2008). Table 1 provides a general

breakdown of services, personnel and beneficiaries by the three major services medical components.

Table 1. Demographics of the MHS by Service Component

	<i>MHS Components</i>			
Budget	AMEDD	AFMS	BUMED	TMA
Personnel	75,000 officers, enlisted, and civilian personnel 30,000 medical soldiers (National Guard and Reserve)	40,000 officers, enlisted, and civilian personnel 20,000 members (national Guard and Reserves)	56,000 officers, enlisted and civilian personnel	132,700 DHP personnel in MHS 163,000 active duty and civilian (EFY07)
Beneficiaries	5 million active duty, retirees, and family members	2.63 million Active duty, retirees, and family members	2.6 million active duty, retirees, and family members	9.1 million
Facilities	8 medical centers 26 medical activities (MEDDACs)	74 MTFs 11 hospitals 3 medical centers 2 medical wings	22 hospitals 3 Naval Commands 6 clinics 11 dental centers	3 TRICARE Regional Offices (TROs)

Source: MHS Human Capital Strategic Plan (2008-2013)

TRICARE is the health care program serving active duty service members, retirees, their families, survivors and certain former spouses worldwide. As a major component of the Military Health System, TRICARE brings together the health care resources of the uniformed services and supplements them with networks of civilian health care professionals, institutions, pharmacies and suppliers to provide access to high-quality health care services while maintaining the capability to support military

operations (Deployment Health and Clinical Center, 2008). The TRICARE Management Activity (TMA) manages and executes the Defense Health Program (DHP) appropriation and supports the Uniformed Services implementation of the TRICARE program (Human Capital Strategic Plan, 2008). TRICARE managed-care providers include a network of civilian providers administered through regional contracts with civilian managed-care organizations. The fee-for-service option also covers care provided by civilian providers who have not joined the network.

The medical mission of the DOD is managed by the Office of the Assistant Secretary of Defense for Health Affairs (ASD (HA)). Under the ultimate purview of the Office of the Secretary of Defense (OSD), the ASD (HA) issues policies, procedures, and standards of TRICARE. It also develops MHS initiatives to improve the quality of healthcare across the DOD and prepares the DOD healthcare budget (Human Capital Strategic Plan, 2008).

#### **A.2. Veterans Health Administration (VHA)**

The Veterans Health Administration (VHA) is the component of the United States Department of Veterans Affairs (VA) that implements the medical assistance program of the VA through the administration and operation of numerous VHA outpatient clinics, hospitals, medical centers and long-term healthcare facilities (i.e., nursing homes) (About the VA, 2008). VHA operates the nation's largest integrated health care system. Unlike the DOD's TRICARE Program, VHA is solely a direct service provider rather than a health insurer or payer for health care. VA health care services are generally available to all honorably discharged veterans of the U.S. Armed Forces who are enrolled in VA's health care system. VHA has a priority enrollment system that places veterans in priority

groups based on various criteria (see Annex A). Under the priority system VHA decides each year whether its appropriations are adequate to serve all enrolled veterans. If not, VHA could stop enrolling those in the lowest-priority groups.

The administration is divided into 21 different health system networks, which occupy different regions of the country and are usually located in more than one state. They contain medical centers, vet centers, and outpatient clinics offering primary and specialized care. Overall, the VHA operates a system of 153 independent VHA medical centers, 822 ambulatory care and community-based outpatient clinics (CBOCs), 136 nursing homes, 45 residential rehabilitation treatment programs, and 92 comprehensive home-based care programs (About the VA, 2008).

The VHA provides a wide range of specialized services to meet the unique needs of veterans: spinal cord injury medicine, blind rehabilitation, amputee programs, advanced rehabilitation, prosthetics, traumatic brain injury and posttraumatic stress disorder treatment, extended mental health and long-term care programs. VHA provides long-term care for thousands of veterans annually. VHA is also the nation's leader in geriatric research, education and training. The administration partners with 107 medical schools and 2,000 colleges or universities. The VHA's academic affiliates train more than 85,000 health care professionals each year (Disabled American Veterans, 2008). More than half of the nation's practicing physicians receive all or part of their training in the VHA. Affiliations bring first-rate health care providers along with state-of-the-art medical science to the service of America's veterans. Annex B provides a general summary of the VHA benefits and healthcare utilization.

### **A.3. History of the VA/DOD Sharing Program**

Both the Department of Defense (DoD) and Veterans Affairs (VA) healthcare systems operate similar budgets, services and challenging patient loads, yet enjoy separate Congressional oversight, leadership and administration. With more emphasis on a cost efficient and effective healthcare system, Congress stressed collaboration between the two systems with the enactment of the 1982 VA/DoD Health Resources Sharing and Emergency Operations Act. The original stimulus behind the 1982 Act was to give the VA and DoD the vehicle necessary to create sharing initiatives on their own with the ultimate goal of containing increasing healthcare costs. The endorsement behind the DoD and the VA sharing resources was emphasized in 1999, with the National Defense Authorization Act (NDAA Public Law 105-261).

In 1997, the VA/DoD Joint Executive Council (JEC) was established to identify and capitalize on opportunities to enhance mutually beneficial services and resources. To accomplish this, the JEC established the Joint Strategic Planning Committee (JSPC) to develop the VA/DoD Joint Strategic Plan. The plan's mission is to improve the quality, efficiency and effectiveness of the delivery of benefits and services to service members, military retirees and their families, and veterans through an enhanced DoD and VA partnership (VA/DoD Joint Strategic Plan, 2007). The committee completed work on the Joint Strategic Plan and it was approved by the JEC in April 2003. The Committee is currently overseeing updates to the plan and provides quarterly updates to the JEC (DoD/VA Joint Strategic Plan, 2007).

Under the Joint Strategic Plan, Goal #2 promotes the effort of establishing joint efforts. The goal states that the VA and DoD will expand the use of partnering and sharing arrangements to improve services for all beneficiaries (DoD/VA Healthcare

Resource Sharing, 2008). Collaboration will continue on developing joint guidelines and policies for the delivery of high-quality care and the assurance of patient safety. On May 28, 2001, President George W. Bush established a 15-member President's Task Force to Improve Healthcare Delivery for our Nation's Veterans in concert with the establishment of the Joint Strategic Plan (Executive Order Number 13-214, 2001). Their mission was to identify ways to improve coordination and sharing between VA and DOD in order to improve healthcare for service members and veterans. In May 2003, the task force made recommendations to the VA and DOD to increase collaboration and coordination between the two departments to improve healthcare delivery (Williamson, R.B., 2008). In addition to recommendations for the VA and DOD, the task force also recommended actions taken by the Department of Health and Human Services (HHS) and Congress to aid in that collaboration. Since those recommendations, there have been several Government Accountability Office (GAO) reports and other comprehensive studies that have tracked the progress of the DOD/VA collaboration. The most recent report was published by the GAO in April 2008 which provided an update on the implementation of the 2003 task force recommendations. This update reported that the DOD and VA have made progress in implementing the task force recommendations, but more remains to be done (GAO, 2008). See Annex C for the list of recommendations and their respective status.

The 2003 National Defense Authorization Act (NDAA) required the DOD and the VA to establish a Joint Incentives Fund (JIF) program. According to the Memorandum of Agreement (MOA) entitled *DOD/VA Healthcare Sharing Incentive Fund*, the purpose of the fund is to implement, fund, and evaluate creative coordination and sharing initiatives at the facility, intra-regional, and nationwide level. There is a required

minimum contribution of \$15 million each year from each department over a 4 year period. Currently, the requirement for contribution was extended to FY 2010 by the John Warner National Defense Authorization Act for FY 2007 (National Defense Authorization Act, 2007).

## **B. Background**

TRICARE defines acute psychiatry as a behavioral health disorder that threatens physical well-being needing 24-hour medical and psychiatric care (TRICARE, 2008). The acute psychiatry ward provides emergency, short-term stabilization and treatment for patients with a variety of those behavioral health disorders. These patients are diagnosed with a mental illness that interrupts everyday living and cannot be treated successfully on an outpatient basis. The goal of the inpatient acute psychiatric ward is to stabilize the patient with the necessary medication and therapy in order to return them to the community where they can receive necessary outpatient or long term care.

### **B.1. Carl R. Darnall Army Medical Center**

Carl R. Darnall Army Medical Center (CRDAMC) is a DoD medical facility located at Fort Hood in the heart of Central Texas providing comprehensive care to approximately 140,000 beneficiaries that include active duty military, their family members and retirees who live within 40 miles of the hospital (CRDAMC, 2008). CRDAMC falls under the purview of the Great Plains Regional Medical Command (GPRMC). Their Mission and Vision state and following:

Mission:

- *Provide high quality, customer focused accessible and comprehensive service in support of the Global War on Terrorism and the Army Medical Action Plan.*
- *Promote resilience for our Soldier and their Families, enhancing readiness and deployment.*
- *Conserve the fighting strength through a culture of excellence in our continuum of medical training.*
- *Set the standard and being accountable to our nation.*

Vision:

*We are the face of Army Medicine: Quality health care for our Army starts here! Access to world-class care, nationally recognized medical training and courteous service are our core competencies. We develop 21st century leaders, accountable to our Army and our beneficiaries.*

#### CRDAMC Behavioral Health Services

The Behavioral Health Division of CRDAMC provides outpatient and inpatient treatment and consultation related to the management and treatment of behavioral issues and mental health concerns (CRDAMC, 2008). The Behavioral Health Division consists of outpatient mental health services provided at the Resilience & Restoration Center (R&R Center), the Child & Adolescent Psychiatry Evaluation Service (CAPES), the Inpatient Psychiatry Service, the Department of Social Work (DSW), the Hospital and Administrative Psychiatry Service, and the Department of Substance Abuse Services (DSAS).

CRDAMC's initial Inpatient Psychiatry Service contained 8 beds and provided inpatient psychiatric care to active-duty members of the Uniformed Services stationed or in training at Fort Hood. With the increase in beds from 8 to 12, the mission remained the same. On a space available basis, services are also available to non active-duty patients,

Family Members, retirees, and retiree Family Members, who are covered under TRICARE Prime.

### Inpatient Psychiatric Services

Inpatient psychiatry is performed on Ward 5 East and receives all active duty service members and non-active duty service members in need of hospitalization from the Great Plains Regional Medical Center. Although no diagnostic categories are excluded, common diagnosis include, adjustment disorders, mood disorders, anxiety disorders, psychoses, alcohol and substance abuse, eating disorders, and general medical conditions that lead to mental health disturbances (CRDAMC Inpatient Psychiatry SOP, 2008). The chief of the Inpatient Psychiatry service is ultimately responsible for the diagnosis of the patients with the input of the interdisciplinary treatment team. Services associated with Inpatient Psychiatry are medical evaluations, Psychological testing, Psychotherapeutic interventions, Psychopharmacology, Occupational therapy, Physical training, and nutritional assessment. Operating on a 24 hour basis, admission to the ward is determined by the doctoral level psychologist or a psychiatrist.

### Entry / Admission Criteria

Active duty service members who are experiencing suicidal ideations, homicidal ideations, and/or who are psychotic and thus at risk for self harm or to others should be admitted to the inpatient psychiatric unit (CRDAMC Inpatient Psychiatry SOP, 2008). In addition to patients with these criteria, patients who are unable to be managed as outpatients or might benefit from an inpatient stay for evaluation or treatment changes will all be considered on a case by case basis for admission. Lengths of stay are

determined by the adequate resolution of the need for admission and other considerations for proper treatment of the patient. Priority for admission considers acuity level and beneficiary category. CRDAMC prioritizes active duty personnel then non-active duty enrolled into TRICARE-Prime for admission.

### Staffing

The Head Nurse and each shift charge nurse determine the number of RN's, LPN's and behavioral science technicians needed for each shift through a system of nursing acuity. Table 2 outlines the patient acuity used by the head nurse to establish patient load and implement staffing plan. Currently, there is one full time psychiatrist assigned to the ward. In addition, the on call psychiatrist provides 24 hour medical support for the ward.

The ward operates on three shifts during a 24 hour period. Operating at 8 beds, all three shifts each day are covered by at least one RN, one LPN and one behavioral science technician. During the day shift an increased amount of processing of patients occurs which requires additional nurse staffing. Vacancies for staffing are addressed primarily through vice hiring and contract personnel. In the interim, nursing staff is temporarily assigned to the ward from other areas of the hospital and physician vacancies are filled by other available staff psychiatrist. As indicated earlier, staff shortages have impacted many healthcare organizations and this is no different for CRDAMC. The contingency plan to shift staff to the inpatient ward is done only in emergent needs to fulfill patient acuity.

Table 2. Patient acuity used by CRDAMC inpatient psychiatry to establish nursing staff

Category Level	Description	Average % on ward
6	Patients in restraints and on Line of Sight who require 1:1 coverage on all shifts	0.5%
5	Patients on Line of Sight who require 1:1 coverage on all shifts	0.5%
4	Patients on Restrict to Unit Status, who require 15 min. checks to ensure safety	30%
3	Patients on Ward or Buddy status who require 30 min. checks	69%

Source: CRDAMC Behavioral Health Division Standard Operating Procedures. Data supported by the Workload Management System for Nursing (WMSN).

### Issues

The purview of the Registered Nurse (RN) covers the entire staff for both direct and indirect supervision. RNs on 5 East currently supervise all psychiatric technicians by the use and monitoring of the daily staff assignment sheet. The RNs are responsible for overseeing all Military Proficiency Training (MPT), Licensed Vocational Nurses (LVN), and Medical students on the ward. They are also responsible for all admissions, discharges, medication management, and physician orders for patients (Texas Board of Nursing, 2008). Currently, 50% of the nurses on 5 East staff are military and are PROFIS to outlying Combat Support Hospitals (CSH). Their responsibilities consist of extended field training and deployments with their units which impact the staffing levels of the ward. Behavioral Science technician positions are predominately occupied by enlisted personnel who have military responsibilities (such as guard duty, duty driver, and Charge of Quarters). These responsibilities usually requires up to a 24 hour shift with a recovery day. The current psychiatrist position also possesses other responsibilities within the hospital such as Medical Evaluation Boards (MEB) and on-call duty (M. Belarde, personal conversation, 22 SEP 2008).

## Current Operations

Since FY 2004, CRDAMC's 8-bed inpatient psychiatry ward has managed the population demand of inpatient psychiatry. A significant increase in purchased care bed days for acute psychiatry was realized in FY 2007 and 2008 (Figure 1). During this period the 8-bed model operated at an average of 98% capacity per month. The purchased care bed days are active duty beneficiaries that have presented to the hospital and were referred to the network due to limited capacity (see Figure 2).

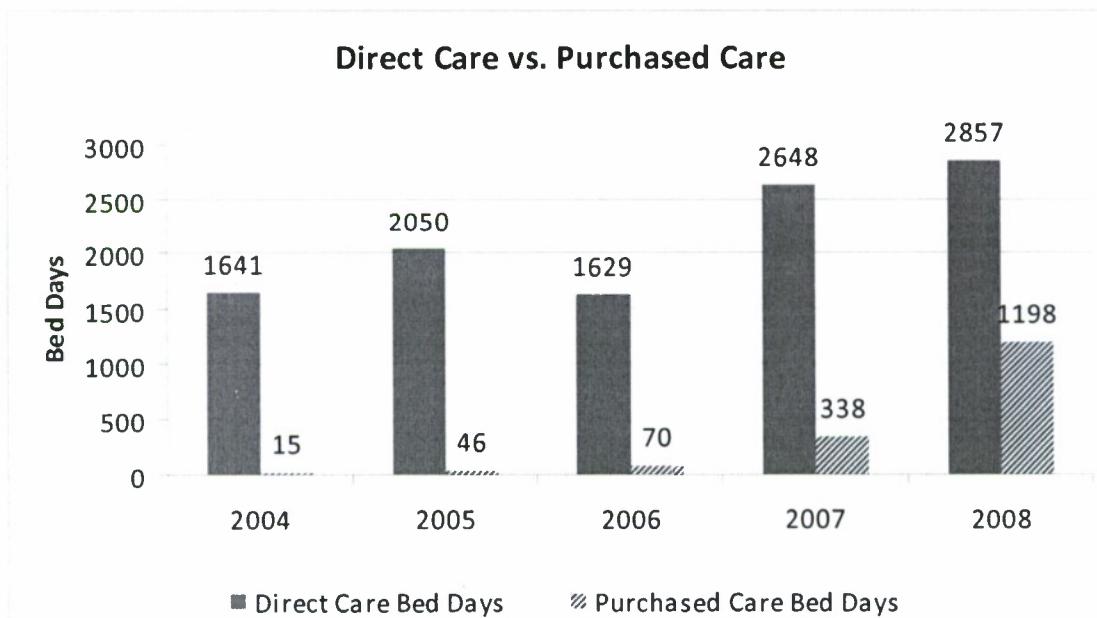


Figure 1. Active Duty inpatient Purchased Care bed days in comparison to Direct Care Bed days by Fiscal Year Source: MHS Mart (M2) retrieved on 13 NOV 08.

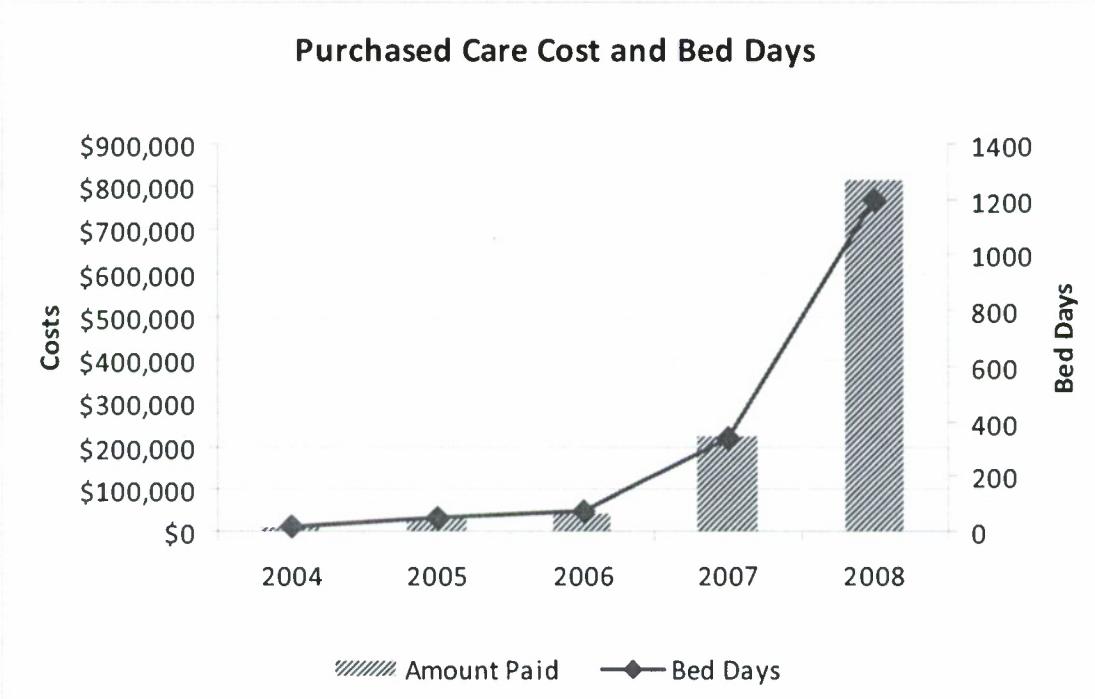


Figure 2. Active Duty Inpatient Purchased Care for FY 04 thru FY 08. This purchased care data is based on CRDAMC 8-bed inpatient psychiatry ward. Source: MHS Mart (M2) retrieved on 13 NOV 08.

In response to the increase demand, CRDAMC has expanded their inpatient beds from 8 to 12 along with an increase in the necessary clinical staff to support the additional workload. The increase expects to recapture a portion of the purchased care that had been referred. Table 3 outlines the current staffing plan for CRDAMC 8-bed ward and the projected increase of staff for a 12-bed ward. This plan considers the average acuity level seen on the ward.

Table 3. Staffing plan for 8-bed and 12-bed patient capacity

<i>8-Bed Minimum Requirement</i>					
	MD	RN	LVN	CNA	Total
Days	1	2	1	3	7
Evenings	On call	1	1	2	4
Nights	On call	1	1	2	4
<i>12-Bed Minimum Requirement</i>					
	MD	RN	LVN	CNA	Total
Days	2	3	2	4	10
Evenings	On call	2	2	3	8
Nights	On call	1	2	3	6

Source: CRDAMC inpatient psychiatry projection model based off historical workload

## B.2. Central Texas Veterans Health Care System

The Central Texas Veterans Health Care System (CTVHCS) operates hospitals located in Waco and Temple, a large clinic located in Austin, and Community-Based Outpatient Clinics (CBOC) located in several Central Texas surrounding towns. Central Texas is home to 238,349 veterans and covers 35,243 square miles (CTVHCS Trip pack, 2008). CTVHCS is part of the Veterans Integrated Service Network (VISN) 17, which covers Central, North, and South Texas. The VISNs report to the Veteran Healthcare Administration (VHA) which operates similar to the Army's Regional Medical Commands (RMCs) who report to the MEDCOM. CTVHCS current mission and vision are:

Mission:

*Honor America's veterans by providing exceptional health care that improves their health and well-being.*

Vision:

*To be a patient-centered integrated health care organization for veterans providing excellent health care, research, and education; an organization where people choose to work; an active community partner; and a back-up for National emergencies.*

## CTVHCS Behavioral Health Services

The Waco hospital is a psychiatric facility which provides inpatient psychiatric care to an array of psychiatric diagnosed veterans to include acute psychiatry, chronic illnesses, and long term psychiatric nursing home care (CTVHCS Trip pack, 2008). Their primary psychiatric mission starts with the acute and intermediate psychiatric program which is designed for immediate treatment and disposition to a stage of rehabilitation or outpatient care. Programs such as the Post Traumatic Residential Treatment Program (PRRTP) and the Serious Mental Illness Life Enhancement (SMILE) program offer rehabilitation and recovery services, whose primary focus is to improve the quality of life for veterans while promoting independence and recovery.

In addition, the Waco facility has 140 beds in their Community Life Center (CLC) to provide long term care to "psycho-geriatric" patients, who are defined as those patients with a psychiatric disorder age 65 or older. Individuals older than age 50, who have chronic diseases resembling a geriatric process, are also considered for program placement. The goal of the program is to discharge the veteran to the least restrictive setting. Waco also includes a Blind Rehabilitation Unit that started in 1974 and currently has 15 inpatient beds. The program provides comprehensive rehabilitation services for legally blind veterans. Aids and devices are issued to veterans to include mobility devices, low vision optical aids, communication equipment, and computers.

In 2003, the VA Capital Asset Realignment for Enhanced Services (CARES) Commission released a draft plan that called for the closure of the Waco VA facility. Senator Kay Bailey Hutchison (R-TX) along with Congressional personnel, lobbied for a commission hearing to be held in Waco so that Central Texas veterans could express their views on the issue. After a considerable effort between political leaders and local

veterans, in November of 2005, Sen. Hutchison authored legislation which designated the Waco VA a Mental Health Center of Excellence (Embler and Loftus, 2007). This designation made additional funding close to \$50 million available to the hospital to include funds expanding the inpatient mental health bed capacity in the Waco facility. The purpose behind the bed expansion is to be able to care for psych patients in the proper capacity of their diagnosis. Table 4 outlines the specific changes to the bed capacity of the Waco VA facility. Of particular interest to the DOD is the acute inpatient psychiatry and PTSD residential treatment beds.

Table 4. Current and future bed allocation for the VA Psychiatric hospital in Waco, TX

	<i>Current Beds</i>	<i>Projected Beds</i>
SMILE / PRC	44	50
Acute Psychiatry	66	40
PTSD / PCT	40	50
CLC	140	100
Blind Rehab	15	20
Polytrauma / TBI	0	15
Geriatric Psychiatry	0	30
Long Term Psychiatry	0	36
<b>TOTAL</b>	<b>305</b>	<b>341</b>

Source: Waco VA Medical Center Mental Health and Behavioral Medicine Planning Meeting (August 1, 2008)

#### Acute Inpatient Psychiatry

In preparation for “right-sizing” the acute ward, the Waco leadership decided to discontinue their intermediate program and began relocating those patients identified as intermediate into long-term facilities. This decision was made in May 2008 and patient movement commenced in September. The reorganization allows more patients to be admitted into the facility due to a reduced length of stay per patient. This change gives Waco 66 acute psychiatric beds consisting of a Psychiatric Intensive Care Unit (PICU)

and two Acute Psychiatry Units (further divided into APU A and APU B) (VA Memorandum 116A-008-08, 2008). The PICU is a closed unit clinical setting with six beds and two “special needs” restraint beds where care for patients in crisis is due to psychiatric symptoms. The PICU has the highest level of therapeutic intervention and most restrictive security. On this unit, initial psychiatric assessments are performed with the focus of mitigating symptoms that are an imminent self-injuring risk or have erratic and physically aggressive behaviors. The acute psychiatry unit is a closed clinical setting consisting of the remaining 60 beds. These beds have a high intensity of therapeutic intervention, provide continued care of patients with a variety of psychiatric diagnoses, including, but not limited to patients with substance issues who require more care than the one provided on a less restricted level of care. Psychiatric examinations, continued monitoring, and treatment are provided to patients with continuing episodes of increased psychiatric symptoms and/or inability to be cared for at a lower level of care (VA Memorandum 116A-008-08, 2008).

#### Entry / Admission Criteria

The attending psychiatrist is medically and administratively responsible for the patient’s psychiatric diagnostic assessment, admission note, treatment plans and follow-up notes. The psychiatrist in collaboration with the patient, family, and interdisciplinary team develop discharge plans and follow up care. All admissions to acute psychiatry services are evaluated by the Psychiatry Intensive Care Unit staff to complete the history and physical exam and initial psychiatric evaluation within 24 hours of arrival. Access to the Waco VA psychiatry service depends on the availability of the PICU beds at the need of entry for an incoming patient (VA Memorandum 116A-008-08, 2008). Criteria for

entry into the acute psychiatric ward are consistent with both the TRICARE and DoD definition of acute psychiatry.

### Staffing

The Waco VA has nurse managers who determine the number of RN's and other support staff based on patient census. This determination is done for each APU and PICU wards in the acute psychiatry section. Waco VA's patient acuity has three levels with the majority of their population falling in the low category (see Table 5). The psychiatrists are assigned by patient because of the operation of two wards and the PICU suite. The intent is to provide the patient with continuity of care through interacting with the same physician and support staff.

Table 5. Patient acuity used by CTVHCS inpatient psychiatry to establish nursing staff

<i>Category Level</i>	<i>Description</i>
High	Patients on Line of Sight who require 1:1 coverage on all shifts
Moderate	Patients on Restrict to Unit Status, who require 15 min. checks to ensure safety
Low	Patients on Ward or Buddy status who require 30 min. checks

Source: CTVHCS Acute Psychiatry Operating Procedures

The wards operate similar to CRDAMC in that there are three shifts during a 24 hour period. APU A has 24 inpatient beds in addition to the PICU and restraint beds while APU B has 36 inpatient beds. The chief physician of the department keeps a 10:1 patient to provider ratio while the nurse manager keeps a 6:1 patient to nurse ratio. The day shift has the most activity and the support staff is adjusted to handle the workload.

## Current Operations

CTVHCS's Waco facility has also realized an increased demand for acute psychiatric services which prompted decisions to restructure their inpatient mission. Since FY06, they have operated at a 97% occupancy rate for their acute and intermediate ward indicating that there is minimum excess capacity (Figures 3 and 4).

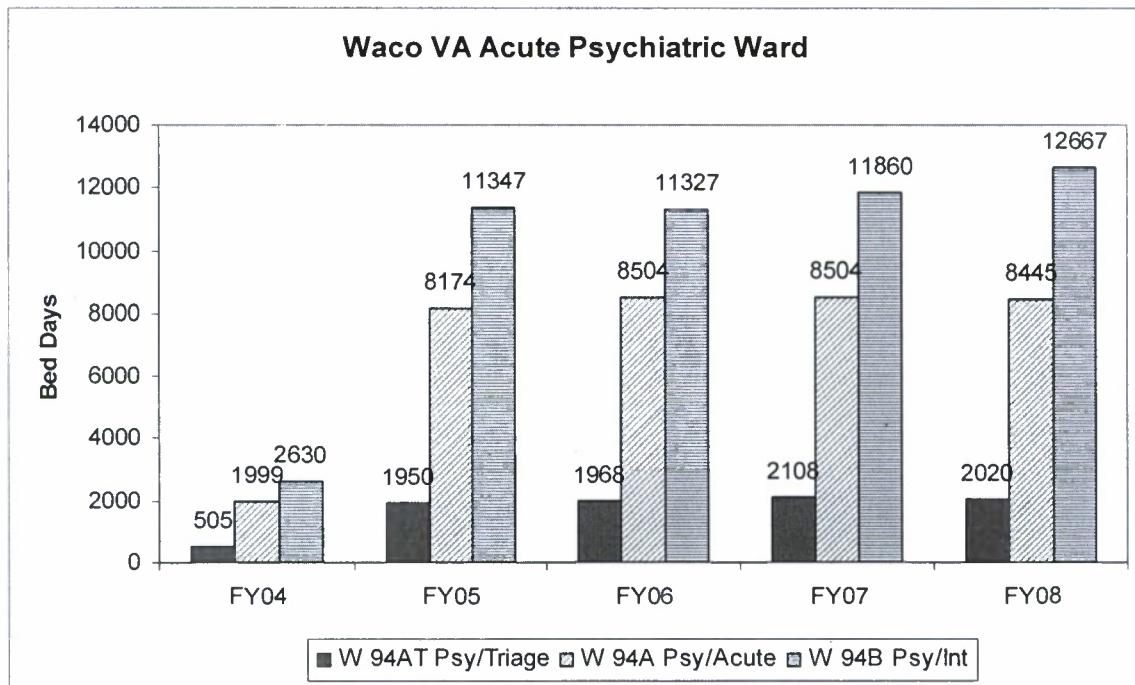


Figure 3. Cumulative Bed days for the Waco VA acute psychiatry ward by section.  
Source: Veterans Health Information Systems and Technology Architecture (VistA) bed status report retrieved on 18 December 2008.

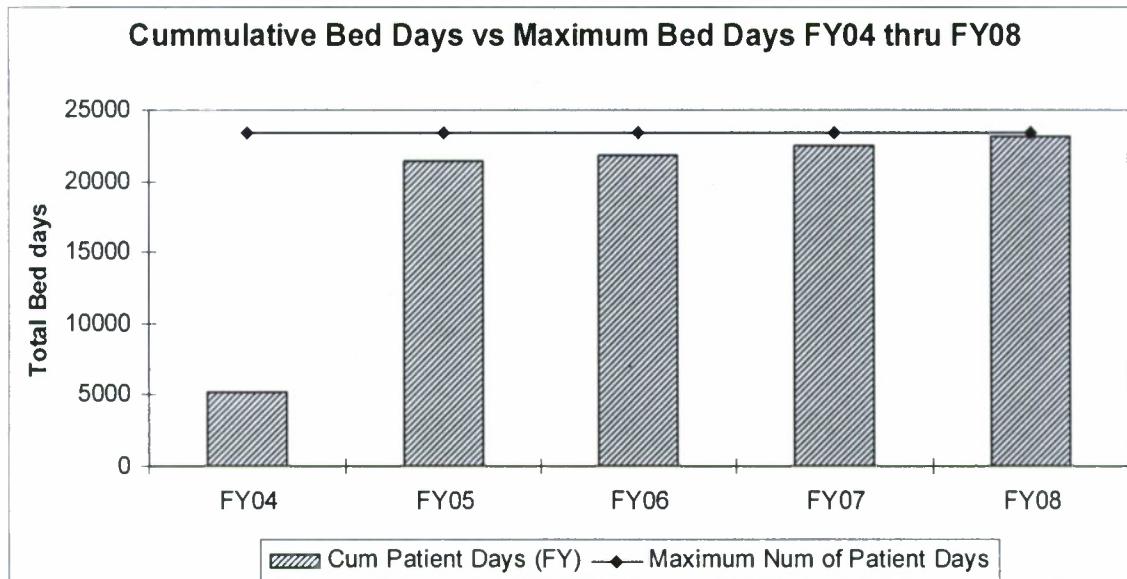


Figure 4. Cumulative bed days for the Waco VA acute psychiatry in comparison to the maximum number of patient days for a 66 bed ward. Source: Veterans Health Information Systems and Technology Architecture (VistA) bed status report retrieved on 18 December 2008

In FY 2008, there was a decrease in occupancy rate and bed days seen near the end of the fiscal year primarily due to the reorganization of the intermediate ward (Figure 5). The chief of the inpatient psychiatric ward anticipates this decrease to continue throughout FY 2009 as the ward moves closer to an average LOS of 5 to 7 days, indicating a shift in the majority of their patients being classified as acute. In Figure 6, the decrease in occupancy rate is seen in the first quarter FY 2009. The figure shows the increased difference between the cumulative patient bed days compared to the maximum available bed days as the quarter progresses.

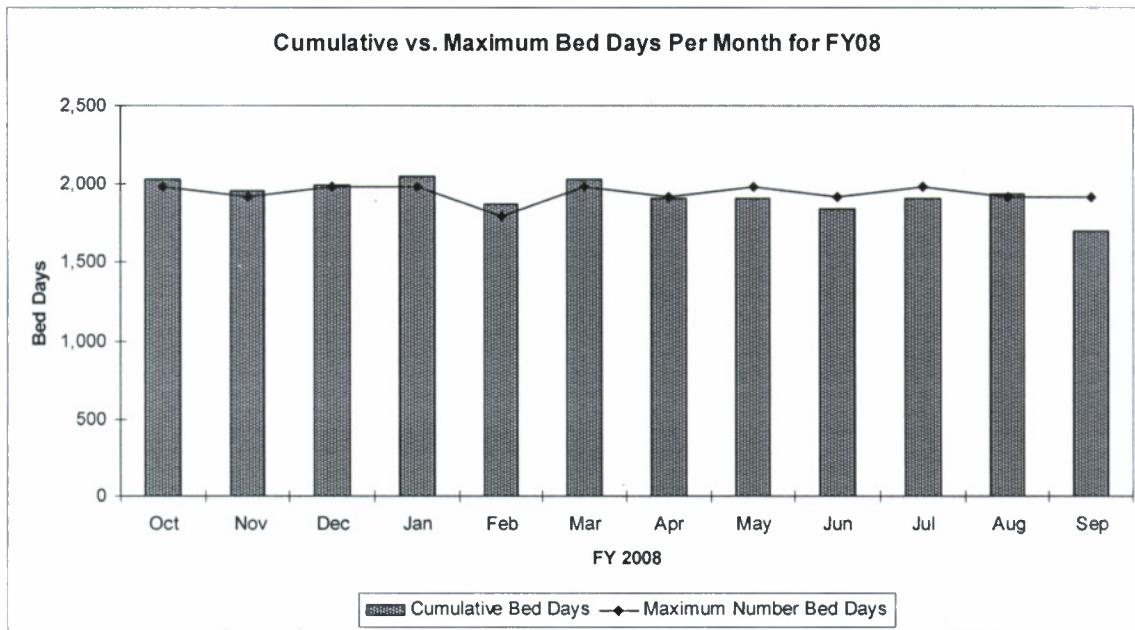


Figure 5. FY 2008 Cumulative bed days for the Waco VA acute psychiatry in comparison to the maximum number of patient days. Source: Veterans Health Information Systems and Technology Architecture (VistA) bed status report retrieved on 15 January 2008

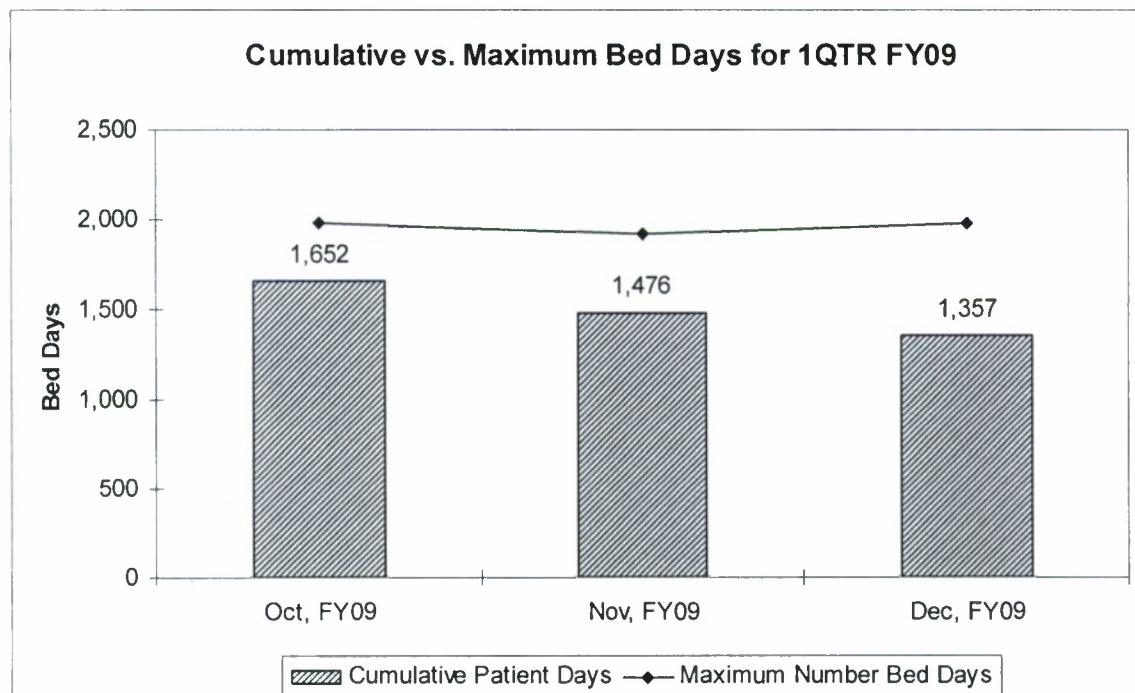


Figure 6. 1<sup>st</sup> Quarter FY 2009 Cumulative bed days compared to the maximum number of patient days for the Waco acute psychiatry. Source: Veterans Health Information Systems and Technology Architecture (VistA) bed status report retrieved on 15 January 2008

The Waco facility currently has five psychiatrists with an average provider to patient ratio of 11:1. The total support staff consist of 25 Registered Nurses (RNs) 3 Licensed Vocational Nurses (LVNs) and 20 Nursing Assistants. In a conversation with the chief physician at Waco, the facility will not operate at full capacity to due to a loss of a psychiatrist. An additional psychiatrist would allow the acute facility to operate at a provider to patient ratio of 10:1 (J. Carmona, personal conversation, 15 November 2008) Table 6 outlines the Waco acute psychiatry minimum staffing requirements for the entire 66 bed ward. The minimum staffing is based upon the average acuity level of “low” seen on the ward.

Table 6. Staffing plan CTVHCS inpatient psychiatry in Waco, TX

<i>Minimum Requirement for Current Operations</i>					
	MD	RN	LVN	PNA	Total
Days	5	8	4	6	22
Evenings	On call	4	4	6	14
Nights	On call	4	4	4	12
<i>Minimum Requirement for Operations at Maximum Capacity</i>					
	MD	RN	LVN	PNA	Total
Days	6	10	6	8	30
Evenings	On call	6	6	8	20
Nights	On call	6	2	3	6

Source: CTVHCS Acute Psychiatry Staffing Model implemented by the Nurse Manager (VA Memorandum 116A-008-08, 2008)

### B.3. Current Sharing Agreements between CRDAMC and CTVHCS

According to the CRDAMC (FY 09-11) Business Plan, the hospital currently has five separate DoD/VA Sharing Agreements with the CTVHCS. In the Separation/Retirement Physicals, VA Compensation and Pension Exam agreement, VA providers work at the Thomas Moore Health Clinic (TMHC) and combine the Army

separation physical and Part I of the VA compensation physical. This agreement reduces redundancy in the transition process but there is no money exchanged. The Sleep Studies Lab agreement allows CRDAMC and the VA to share and jointly staff the 4-bed sleep lab located at the Temple VA. This agreement was funded for two years under a Joint Initiatives Funding (JIF) to expand access to sleep studies for both beneficiary populations (CRDAMC and VA). This included an anticipated expansion to a 6-bed sleep lab at the Temple VA in which both organizations equally share capacity. The Laundry Service agreement allows the VA to provide daily linen services to CRDAMC under the VA contract. This agreement provides the most cost savings out of the other five and provides continuing service for the VA to keep their contract active. The Blood Bank / Excess Red Blood Cells agreement states CRDAMC will make available to CTVHCS any red blood cells not needed by the military. This provides a cost savings to the VA when excess is available. The Mental Health Initiative can be considered the most innovative agreement between the two organizations. This initiative is two fold; first, it allows CRDAMC behavioral health services to hire additional mental health professionals using the VA's more flexible and responsive hiring positions. Second, the VA providers work within the Fort Hood Resilience and Restoration (R&R) Center on Fort Hood to assist with care (and potentially transition to VA) for dual-eligible beneficiaries and their post-deployment mental health needs. All agreements meet the standard requirements for DoD/VA Sharing, but do not realize a significant cost savings to either organization.

Although not viewed as an active sharing agreement, there has been active duty personnel treated in VA facilities on a referral basis. In a conversation with Mr. Steve Park, DoD/VA Liaison for CRDAMC, active duty personnel have sought and received

services from the VA Medical Center in Waco, TX for the PTSD residential program. The patients were accepted on a referral basis from a psychiatrists located at CRDAMC through the DoD/VA Liaison. Although this process is not standard practice between the CRDAMC and CTVHCS, an initial effort has been made to refer mental health services that the DoD does not obtain to a VA facility that specializes in that service. (Personal Interview, Sep 18, 2008)

#### **B.4. TRICARE Benefits**

Under the TRICARE Prime Benefits, Active Duty Service Members are covered for certain Mental Health and Behavioral services both inside and outside the designated network. Treatment for substance use disorders (i.e. detoxification, rehabilitation, outpatient group therapy, etc.) acute inpatient psychiatric care and partial hospitalization are all authorized pending the recommendation of the physician and prior authorization from the regional contractor. Table 7 outlines what TRICARE covers for each type mental health service offered to active duty.

Table 7. TRICARE Prime Coverage of Inpatient Mental Health and Behavioral Services for Active Duty

<i>Service</i>	<i>Description</i>	<i>Coverage</i>	<i>Requirements</i>
Substance Use Disorders	Alcohol or drug abuse or disorder	<ul style="list-style-type: none"> <li>- 3 substance use disorder benefits periods in a lifetime</li> <li>- Benefit period begins with the first date covered treatment and ends 365 days later</li> </ul>	Recommendation from physician and prior authorization from regional contractor
Acute Inpatient Psychiatric Care	Behavioral health disorder that threatens physical well-being needing 24-hour medical and psychiatric care	<ul style="list-style-type: none"> <li>-30 days per fiscal year</li> <li>- covered on an emergency or non-emergency basis</li> </ul>	Recommendation from physician and prior authorization from regional contractor
Partial Hospitalization	Interdisciplinary therapeutic services necessary to stabilize a critical behavioral health disorder or to transition from an inpatient to outpatient program	<ul style="list-style-type: none"> <li>60 days (full or half day) in a TRICARE-authorized partial hospitalization program per fiscal year.</li> </ul>	Recommendation from physician and prior authorization from regional contractor NOTE: does not count toward acute inpatient psychiatric care.

Source: TRICARE Military Health Plan Website ([www.tricare.mil](http://www.tricare.mil))

Waco VA acute inpatient psychiatric and PTSD residential treatment program fall into the scope of coverage for active duty under TRICARE Prime.

In a Memorandum of Agreement between VISN17 and Humana Military, whose coverage is Central Texas, it states that VA Hospital/ Facilities under the purview of VISN 17 is a TRICARE program participating network provider and authorized to provide services to TRICARE beneficiaries, to include active duty service members (VISN 17 TRICARE Contract, 2004). As payment for providing services to TRICARE Beneficiaries, VISN 17 facilities agreed to accept payment 90% of TRICARE Maximum

Allowable Charge (TMAC) specifically for Inpatient Acute, Intensive and Tertiary Care (VISN 17 TRICARE Contract, 2004).

#### **B.5. Conditions Prompting the Business Case Analysis**

Although CTVHCS primary mission is the care of veterans, the VA's emphasis on inpatient mental health and close proximity to CRDAMC led to discussions as an opportunity for both organizations to enhance services in mental health and reduce cost by way of referrals to the network (JMO Working Group, 2008). The CRDAMC leadership aggressively looks at increasing services to their beneficiaries within the hospital organization there by reducing the need to provide purchased care. In concert, they have initiated regular discussions with the CTVHCS leadership to identify and pursue new sharing opportunities.

Inpatient mental health was identified as a service that can be a potential sharing action between CRDAMC and CTVHCS which may increase access to active duty beneficiaries thus reducing the utilization of purchased care (Grimes, 2008). Based on the data gathered from credible resources of each organization, there is evidence that supports a need for additional services in acute psychiatry for active duty but minimal capacity from the CTVHCS Waco facility to absorb that additional workload with their current staff. In an effort to explore all avenues of possible collaboration, this analysis will consider the proposal of maximizing capacity at the Waco facility with an additional psychiatrist in comparison to CRDAMC's current business plan of increased beds at their facility.

## C. Methods and Procedures

This Business Case is offered as a decision support and planning tool whose intent is to project potential financial results and other business consequences of implementing proposed business decisions. On 15 November 2008, Purchased Care Inpatient Mental Health data for CRDAMC were captured using the MHS Mart (M2) Data Repository for FY 2004 thru FY 2008. The goal was to capture the amount of purchased care for active duty personnel who presented to the facility, but were referred to the network with a diagnosis prompting inpatient acute psychiatry. The data was filtered by the provider zip code of the most common psychiatric facilities used by the Referral Management Branch. These facilities are based off of their affiliation within the TRICARE provider network, their ability to offer the service, and their capacity to receive the patient. Using the FY 2008 AMEDD BCA Analysis Tool, direct care inpatient bed workload for the same time period as the purchased care was used as a baseline and a business scenario was measured against that data. The Expense Accounting System (EAS IV) was utilized to account specific cost associated with acute psychiatry services delivered by DoD. The ProClarity Decision Support System (DSS) Cube was utilized to capture the same cost associated with the VA's delivery of acute psychiatry services. This system will supply the marginal cost associated with the VA providing care to active duty patients.

### C.1. Scenarios

The value of potential benefits and costs to CRDAMC in this analysis is developed from a comparison of two scenarios: 1) continue with the hospital current

business plan of increased beds in an effort to recapture acute inpatient mental health; 2) establish a sharing agreement with CTVHCS for dedicated beds in the Waco facility.

#### **C.1a. Scenario 1 – Increase in Bed Capacity**

As of 15 November 08, CRDAMC increased their acute psychiatry beds from 8 to 12 with the addition of 1 FTE psychiatrist and 2 RNs. The total staff to support the 12-bed ward consists of 2 FTE psychiatrists, 12 nurses, and 18 support staff to include LVN, PNA, and Behavioral Medicine technicians. When at full capacity, the diagnosing physician will refer patients out to psychiatric hospitals and acute rehabilitation centers located in Central, South, and North Texas. The decision point for referring to a specific network provider is the diagnosis assessed by the provider and the availability of the gaining facility. One of the network providers most frequently used is a further distance away than the Waco behavioral health facility. This decision was identified as a “quick win” implemented by the command team.

#### **C.1b. Scenario 2 – Sharing Agreement with CTVHCS**

This scenario evaluates collaboration with the CTVHCS behavioral health facility in Waco, Texas. As stated earlier, the Waco facility revised their acute psychiatry facility to implement 66 beds dedicated for acute patients. With this increase of types of beds and initial trend of excess capacity, this may open an opportunity for the VA to receive acute inpatient active duty personnel. This scenario proposes the use of beds for active duty personnel in the Waco facility in exchange for a psychiatrist supplied by the DoD to support the additional workload.

### **C.2. Scope**

The business case analysis covers a five year period beginning FY 2010 (01 October 2009) thru FY 2014 (30 September 2014). This analysis is based on the scheduled timeline for completion of the acute inpatient facility in Waco, TX. This will also be the start time for the first active duty patient to be seen in that facility.

### **C.3. Financial Metrics**

The financial metrics used in the analysis include annual and cumulative cash flows, simple return on investment (ROI), payback period, and the internal rate of return (IRR). Incremental values were used to develop cash flow estimates for the five-year period starting 01 October 2009. Year zero will include the initial hire and training of all staff associated with the active duty beds in the Waco facility prior to the start date. The analysis tool used in both scenarios applies a discount rate of 2.60% as suggested by the Office of Management and Budget (OMB).

### **C.4. Benefits**

The case proposes potential improvements in beneficiary services for CRDAMC and the CTVHCS. With the implementation of an agreement, CRDAMC may have the potential to recapture a large percentage of the cost of sending active duty beneficiaries to network providers for acute inpatient psychiatric services. CTVHCS benefits with additional staff to care for VA beneficiaries when utilization by active duty patients is low. CRDAMC and CTVHCS may mutually benefit from establishing a unique resource sharing agreement to decrease purchased healthcare cost to the federal government.

### **C.5. Costs**

Direct cost impacts are expected for CRDAMC and indirectly for CTVHCS. CRDAMC will be responsible for the salaries and necessary cost of providers and administrative personnel. CRDAMC will also absorb the marginal cost associated with medication and other services outside of normal inpatient acute psychiatric care deemed necessary by the attending physician. For example, if the attending physician requests an MRI for an active duty patient admitted to the acute psychiatric ward, DoD would expect to reimburse that cost to the VA at the network provider rate (VISN 17 TRICARE Contract, 2004). CTVHCS will be responsible for cost of facilities, equipment, IM/IT and supplies normally associated with the operations of their acute psychiatric ward.

### **C.6. Assumptions**

Major assumptions for this Business Case Analysis will consist of the following:

- CTVHCS will establish priority for active duty personnel referred to their facility for acute psychiatry.
- Costs related to additional staffing established by the sharing agreement to care for active duty patients will be the responsibility of CRDAMC
- All costs related to equipment, maintenance and supplies will be the responsibility of CTVHCS
- Transportation of active duty patients referred to CTVHCS will be provided by CRDAMC or the patient's unit.
- CTVHCS will establish work stations, offices and necessary IM/IT equipment for additional staff supplied by the DoD.

- CTVHCS and CRDAMC providers in the Waco facility will treat both active duty and eligible veterans.
- Active duty beneficiaries referred to the Waco facility will be processed back through the CRDAMC hospital for follow-up and outpatient services upon the attending psychiatrist's assessment of the acute psychiatric diagnosis.

## **D. Business Impacts**

The impact of implementation for both proposed plans are expected to result in a significant Return on Investment (ROI). Capturing a population which the organization has more direct management of their healthcare (such as the active duty beneficiaries) gives the results of the scenarios a stronger argument for a viable project of likely benefit in implementation. Conservative cost and benefits were examined to adequately account for all associated variables that impacted the results of each scenario.

### **D.1. Overall Results**

For the increase in beds at CRDAMC, a cumulative net cash flow of \$842,700.00 was predicted over the five year analysis period with a discounted cash flow of \$832,000.00 using an Office of management and Budget (OMB) discount rate of 2.6%. With a simple ROI of 87.4%, the project anticipates a greater benefit of implementing the project despite the cost associated with the implementation (Annex E).

In projecting a sharing agreement between CTVHCS and CRDAMC, a positive yield of \$1,159,500.00 as a cumulative net cash flow and \$1,144,800.00 as a discounted cash flow was realized with an OMB rate of 2.6%. This project yielded a simple ROI of 197.45% which also indicates the total benefits and gains are well above the cost (Annex G). Analysis of both scenarios are presented as cost effective yet consisted of variables

unique to each project. The next sections present detail descriptions of financial cost and benefits considered in each scenario.

#### **D.2. Scenario 1 – Increased beds at CRDAMC**

With an increase of 4 beds, CRDAMC has the potential to recapture up to 1440 bed days of acute psychiatric care (each bed having the potential to be filled 30 days per month multiplied by 12 months). For the scenario, 1200 bed days are used which reflects the amount of purchased care bed days in FY 2008.

##### Scenario Associated Costs

The major costs considered for this scenario is the marginal supply cost for caring for a patient in a psychiatric bed, and the increase personnel cost to support the additional workload. The Expense Assignment System IV (EAS IV) is used as a total for providing this cost. The marginal supply cost for an inpatient mental health bed day is calculated at \$174.59 (EAS IV Retrieved November 20, 2008). This is an average cost calculated by EAS IV and takes into account linen services, nutrition care, house keeping, electricity, and associated ancillary services (Table 8). The salary of the psychiatrist is calculated equivalent of a GS-15 at \$154,700 per year with an annual bonus of \$40,000 for a total of \$194,700. This figure is based off of the hiring action advertised on the military's Civilian Personnel Online (CPOL) for a staff psychiatrist in the Central Texas area (CPOL Retrieved on November 1, 2008). The psychiatric nurse's salary is calculated equivalent of a GS-11 at \$78,087.00 which is reflected on the civilian hiring action in CPOL.

### Scenario Associated Benefits

Benefits considered in this scenario are the purchased care savings with reducing the number of active duty psychiatric patients being sent to the network and the reduced travel cost associated with the transfer. The travel cost is calculated using the government rate of mileage that the hospital pays to the GSA vehicle leasing agency. Although there are cost associated with maintenance of the ambulance and the salaries of the Emergency Management Technicians (EMTs), these costs are fixed and would be paid by the hospital regardless of the implementation of the project (D. Smith Personal Conversation on October 25, 2008). Laurel Ridge in San Antonio, TX is a 300 mile round trip from CRDAMC and the furthest networked facility mostly used for active duty inpatient psychiatric care (M2, Retrieved on 15 November 2008). At 0.42 cents per mile, each trip will cost \$126.00. An estimate of 288 trips per year will be an annual net savings of \$36,288.00.

The breakeven point for this project is an indication when the cost savings that the hospital realized is greater than the investment allocated to fund the project. It is projected in the analysis tool to see this breakeven point well under a year, projecting a time of 4 months into FY 10. Although there are recurring cost for staff and maintenance, the recaptured bed days from purchased care per month compensates for those expenses. This cost savings of purchased care bed days is also reflected on the financial summary along with the decreased mileage expense transferring patients to network providers (Annex D).

### **D.3. Scenario 2 – DoD/VA Sharing Agreement**

The scenario considers available beds space from the Waco acute psychiatric unit up to at least the number of beds days purchased in FY 2008, which is used in the analysis tool.

#### **Scenario Associated Costs**

The cost of an additional psychiatrist provided by CRDAMC to work in the Waco facility along with relative marginal supply cost are considered as an expense to CRDAMC. Relative marginal supply costs considered are medication and additional ancillary care outside normal operating cost for a patient occupying the bed (such as electricity and linen services). The scenario uses a cost of \$72.40 from the Waco VA cost accounting tool, ProClarity, to estimate their cost for supplying ancillary services to an acute psychiatric patient per day (ProClarity Database Retrieved 20 January 2009). The salary of the DoD- hired psychiatrist that will provide care at the Waco facility is comparable to the salary offered to the civilian psychiatrist at CRDAMC. Travel to the Waco facility is also considered as an identifiable expense to CRDAMC with consideration of transferring the patients from Fort Hood. The Waco VA is a 120 mile round trip at 0.42 per mile. Considering 240 trips (20 trips per month based on an average 5 day LOS) at the government rate will be a net cost of \$12,096.00 per year.

#### **Scenario Associated Benefits**

The benefit considered for this scenario is the purchased care savings calculated at \$727.84 per bed day. This average cost per psychiatric bed day is calculated using the total amount of purchased care cost allowed for FY 2008 divided by the total number of bed days utilized for FY 2008.

The payback period for this scenario is 3 months after the proposed implementation of the project in FY 10. The recaptured bed days to other networked providers is considered a savings; however cost associated with transferring the patient to Waco presents as the primary difference between scenarios. The financial summary reflects only the cost savings of purchased beds as a benefit while the transportation cost is reflected in the “other” category under operating expense (Annex F).

## **E. Sensitivities, Risks, and Contingencies**

In considering a decision to pursue a sharing agreement with the CTVHCS, CRDAMC would want to evaluate those variables that may affect a mutual positive return on the investment. As mentioned earlier, the restraint on the Waco VA from accepting more patients is the provider to adequately staff the additional beds. A sensitivity analysis is conducted to see which variables of the project will reflect the greatest amount of change to the project’s profitability. In Figure 4, number of bed days, marginal supply cost, and personnel cost are major factors that can be adjusted and have an impact on the NPV. The sensitivity analysis considers each factor independent of each other and measures its affect on the NPV as it is adjusted 30% above and below the baseline values. In comparison of the three factors, bed days have the most significant effect on the NPV which translates to the importance of patient volume towards CRDAMC benefiting from a positive return. Although an increase of acute psychiatric services is not a goal of the organization, the analysis shows a positive NPV despite an unanticipated 30% decrease in projected bed days.

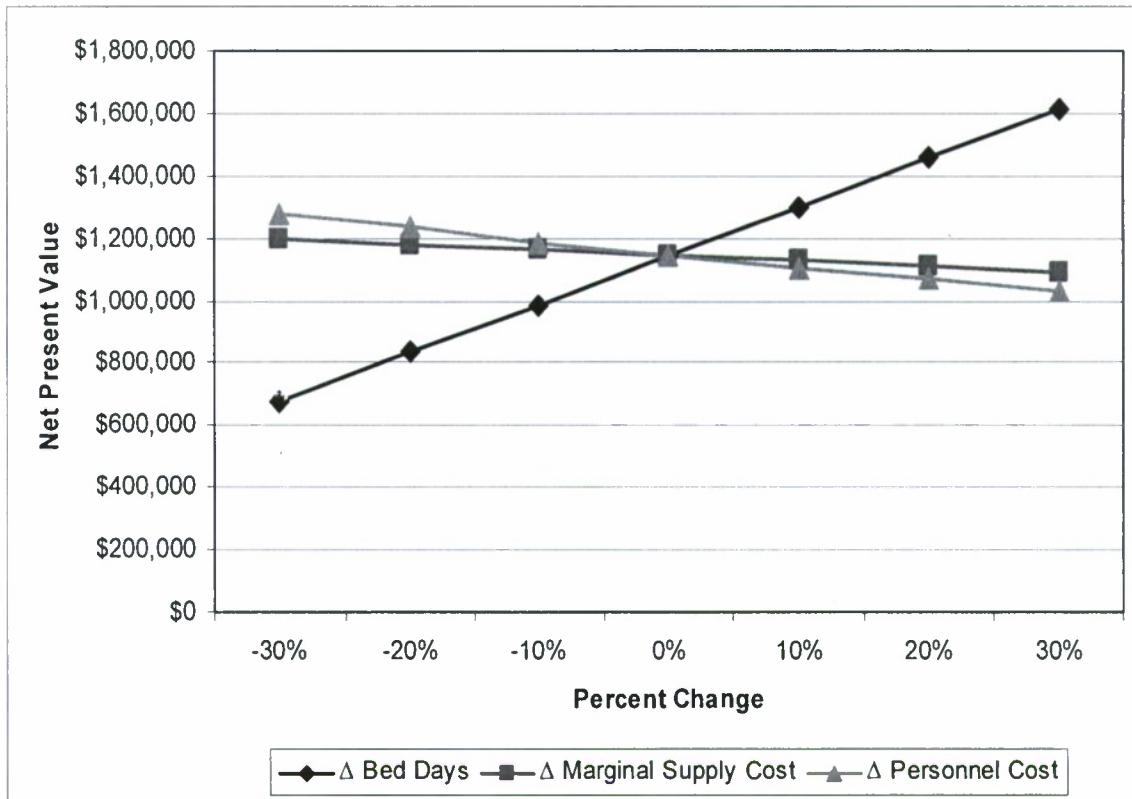


Figure 4. Sensitivity analysis chart of critical variables considered in implementing a sharing agreement.

Considering the increased beds at CRDAMC, its staff is relatively dependent on the availability of military personnel, which presents itself as an issue for reducing the beds back to 8. Although CRDAMC acquired a civilian psychiatrist to adequately staff 12 beds, the remaining two psychiatrists and several support staff are military and are subject to deployment, training, and PCS. The dynamics of the staff runs a risk of reverting back to a bed status that cannot meet the needs of the active duty personnel thus returning to the purchased care network.

## F. Conclusions and Recommendations

Considering the assumptions and analysis provided, both proposed scenarios, provide positive returns on investment. With the organization just recently implementing the increased bed capacity on the ward, it is recommended to continue the current business process with the plan to revisit a sharing agreement with CTVHCS after a 12 month observation period. The observation period would allow the Waco VA inpatient facility adequate time to right-size their acute bed status reflecting a consistent 5 to 7 day inpatient acute stay. Given there are no additional changes to business practices, their data should reflect a continued decrease in capacity, giving both organizations confidence in the notion that there is space available to capitalize on a sharing opportunity. This period also allows CRDAMC to evaluate their change in business practice to confirm whether the additional 4 beds will meet their inpatient demands.

The increased capacity in the facility presents benefits that can not be capitalized on with a sharing agreement. Continuity of care for patients as they transition from an inpatient environment to an outpatient environment will be more apparent in the same facility rather than a transfer from the VA. Providing care for the patients inside of the enrolled hospital not only presents as a cost savings in purchased care but a recapture in workload for CRDAMC. The command and staff would earn credit for inpatient services and improve measurements of productivity in mental health capabilities. These measures of productivity are considered in future allocations of staff and resources for the organization.

The sharing agreement may generate cost savings to the government but may not accrue additional productivity or increased workload to CRDAMC, however, the sharing agreement should be considered based upon the level of resources possessed by the VA

in acute psychiatry. Inpatient psychiatry is one of the larger product lines in the inventory of the VA and the CTVHCS Waco facility is the premier provider in Central Texas for inpatient psychiatric services. Due to the increase in funds for construction projects and an establishment as a Center of Excellence for mental health in the region, pressure to combine products and services may cause the leadership to revisit the sharing opportunity. It is also important to note that this project considered only active duty inpatient psychiatry, a small percentage of the purchased care psychiatric services that CRDAMC refers to TRICARE for payment. The rate at which the active duty inpatient psychiatry increased is consistent with other psychiatric services that the CRDAMC provides but simply do not have the capacity to deliver. This also includes services provided for family members and reserve personnel. Both CRDAMC and CTVHCS are increasing mental health services which have potential for sharing among the two organizations and the discussions through the newly established Central Texas Executive Council (CTEC) facilitate that collaboration. This analysis aids in shedding light on the possible financial benefits of pursuing a sharing agreement but more importantly, increasing the access to care to those eligible in both the CRDAMC and CTVHCS organization.

## G. References

AMAP (2007). The Army Medical Action Plan. [Electronic Document]. Retrieved on May 18, 2008 from <https://www.us.army.mil/suite/portal/index.jsp>

Carl R. Darnall Army Medical Center Business Plan. Fiscal Years 2009 – 2011

Central Texas Veterans Health Care System (2008). United States Department of Veterans Affairs. Central Texas Veterans Healthcare System. Retrieved on April 18, 2008 from <http://www.central-texas.med.va.gov/main/>

Central Texas Veterans Health Care System Trip Pack Report (2008)

CRDAMC website (2008). Carl R. Darnall Army Medical Center, Fort Hood, TX. Retrieved on April 18, 2008 from <http://www.crdamc.amedd.army.mil/default.asp>

Deployment Health and Clinical Center (2008). *DOD/VA Federal Healthcare Services* Healthcare and Support Services. Retrieved on August 27, 2008 from [http://www.pdhealth.mil/hss/healthcare\\_services.asp](http://www.pdhealth.mil/hss/healthcare_services.asp)

DoD/VA Program Coordination. Retrieved on MAY 13, 2008 at (<http://www.tricare.mil/DVPCO/default.cfm>)

DoD/VA Healthcare Resource Sharing Program (2008). Electronic Resource. Retrieved on MAY 02, 2008 at (<http://vadodrs.amedd.army.mil/>)

DoD/VA Joint Strategic Plan (2007). Department of Veterans Affairs and Department of Defense Joint Strategic Plan for Fiscal Years 2008 – 2010. [Electronic Document]. Retrieved on May 10, 2008

Embler, G., Loftus, J. (2007). Sen. Hutchison Continues Support for Waco VA Mental Health Center of Excellence in Senate Hearing. Retrieved on September 15, 2008 from <http://www.senate.gov/~hutchison/pr041207b.html>

Embry E. (2007). Meeting the Health Care Needs of Returning Service Members and New Veterans. Hearing: DOD/VA Collaboration and Cooperation to Meet the Health Care Needs of Returning Service members. Senate Veterans Affairs Committee. United States Senate

Executive Order Number 13.214.66 Federal Regulation 29,447 (May 31, 2001)

Inpatient Psychiatric Care Organization and Function (2008). Memorandum 116A-008-08 Central Texas Veteran Health Care System (CTVHCS)

Joint Medical Office Working Group Meeting (2008). Collaborative meeting with CRDAMC and CTVHCS on 29 SEP 2008 thru 30 SEP 2008. Fort Hood, Texas

MHS Human Capital Strategic Plan (2008-2013) Retrieved on August 27, 2008 from <http://health.mil/HCSP.pdf>

MHS Mart (2008)

Mulallay, K.J. (2002) Department of Defense / Veterans Affairs Sharing at Madigan Army Medical Center. U.S. Army Medical Department Center and School Fort Sam Houston Texas. Retrieved MAY 10, 2008 at

Public Law 97-114. 38 U.S.C. 8111 (1982) Veterans Administration and Department of Defense Health Resources Sharing and Emergency Operations Act

Public Law 105-261 (1998) Strom Thurmond National Defense Authorization Act for Fiscal Year 1999 [Electronic Document]. Retrieved on May 18, 2008 from <http://www.dod.mil/dodgc/olc/docs/1999NDAA.pdf>

Schmidt, M.J. (2002) The Business Case Guide, 2<sup>nd</sup> Edition. Solution Matrix Ltd. Boston, MA

Staffing Plan and Indicators for Psychiatric Nursing Unit (5 East) Standard Operating Procedures. CRDAMC, Fort Hood, Texas

Texas Board of Nursing Rules and Regulations Relating to Nursing Education, Licensure and Practice (2008). Austin, Texas (TexReg 1386)

TRICARE Military Health Benefits (2008). Retrieved on September 17, 2008 from  
<http://tricare.mil/mybenefit/home?country=United+States&zipCode=76542&plan=TRICARE+Prime&status=Active+Duty+Service+Member>

US DOD Military Health System (2008) Retrieved on August 27, 2008 from  
<http://www.health.mil/aboutMHS.aspx>

The Veterans Healthcare Administration ProClarity Decision Support System (DSS) Impatient Cube (2008).

The Veterans Health Information Systems and Technology Architecture (2008).

VISN 17 TRICARE Contract (2004) Memorandum of Agreement of VISN 17 TRICARE contract with Humana Military. Department of Veterans Affairs Veterans Health Administration. Effective on October 1, 2004.

Williamson, R.B. (2008). VA and DOD Health Care: Progress Made on Implementation of 2003 President's Task Force Recommendations on Collaboration and Coordination, but More Remains to Be Done. United States Government Accountability Office (GAO-08-495R).

## H. Annex

### H.1. Annex A. Enrollment Priority Groups

Priority Group	Definition
1	<ul style="list-style-type: none"> <li>• Veterans with VA-rated service-connected disabilities 50% or more disabling</li> <li>• Veterans determined by VA to be unemployable due to service-connected conditions</li> </ul>
2	<ul style="list-style-type: none"> <li>• Veterans with VA-rated service-connected disabilities 30% or 40% disabling</li> </ul>
3	<ul style="list-style-type: none"> <li>• Veterans who are Former Prisoners of War (POWs)</li> <li>• Veterans awarded a Purple Heart medal</li> <li>• Veterans whose discharge was for a disability that was incurred or aggravated in the line of duty</li> <li>• Veterans with VA-rated service-connected disabilities 10% or 20% disabling</li> <li>• Veterans awarded special eligibility classification under Title 38, U.S.C., Section 1151, "benefits for individuals disabled by treatment or vocational rehabilitation"</li> </ul>
4	<ul style="list-style-type: none"> <li>• Veterans who are receiving aid and attendance or housebound benefits from VA</li> <li>• Veterans who have been determined by VA to be catastrophically disabled</li> </ul>
5	<ul style="list-style-type: none"> <li>• Non-service-connected veterans and non-compensable service-connected veterans rated as 0% disabled by VA and whose annual income and net worth are below the VA national income threshold</li> <li>• Veterans receiving VA pension benefits</li> <li>• Veterans eligible for Medicaid programs</li> </ul>
6	<ul style="list-style-type: none"> <li>• World War I veterans</li> <li>• Compensable 0% service-connected veterans</li> <li>• Veterans exposed to ionizing radiation during atmospheric testing or during the occupation of Hiroshima and Nagasaki</li> <li>• Project 112/SHAD participants</li> <li>• Veterans who served in a theater of combat operations after November 11, 1998 as follows: <ul style="list-style-type: none"> <li>• Veterans discharged from active duty on or after January 28, 2003, who were enrolled as of January 28, 2008 and veterans who apply for enrollment after January 28, 2008, for 5 years post discharge</li> <li>• Veterans discharged from active duty before January 28, 2003, who apply for enrollment after January 28, 2008, until January 27, 2011</li> </ul> </li> </ul>
7	<ul style="list-style-type: none"> <li>• Veterans with income and/or net worth above the VA national income threshold and income below the geographic income threshold who agree to pay co-pays</li> </ul>
8	<ul style="list-style-type: none"> <li>• Veterans with income and/or net worth above the VA national income threshold and the geographic income threshold who agree to pay co-pays</li> </ul>

## H.2. Annex B. General Summary of VA Benefits and Healthcare Utilization

VA Benefits & Health Care Utilization		Updated 05/02/08		
Number of Veterans Receiving VA Disability Compensation (as of 03/31/08):	2.9 M			
Number of Veterans Rated 100% Disabled (as of 03/31/08):	272,425			
Number of Veterans Receiving VA Pension (as of 03/31/08):	318,801			
Number of Spouses Receiving DIC (as of 03/31/08):	319,408			
Number of Total Enrollees in VA Health Care System (FY 07):	7.8 M <sup>1</sup>			
Number of Total Unique Patients Treated (FY 07):	5.5 M <sup>1</sup>			
Number of Veterans Compensated for PTSD (as of 12/31/07):	308,402*			
Number of Veterans in Receipt of IU Benefits (as of 03/31/08):	242,483			
Number of VA Education Beneficiaries (FY 07):	523,344			
Number of VA Veteran Life Insurance Beneficiaries (as of 09/30/07):	1.695 M			
Number of VA Voc Rehab (Chapter 31) Trainees (as of FY 07):	52,477			
Number of Home Loans Guaranteed by VA (cumulative as of 03/31/08):	2.1 M			
Number of Health Care Professionals Rotating Through VA (FY 07):	101,404			
Number of OEF/OIF Amputees (as of 12/31/07):	744 <sup>2</sup>			
Source: DVA Information Technology Center; Health Services Training Report; VBA Education Service; <sup>1</sup> VHA (10A5); <sup>2</sup> DOD				
* Statistic is only available through 12/31/07				
<b>Veterans Demographics</b>				
Projected U.S. Veterans Population:	23,816,000	{Female 1,780,000 7%}		
Projected Number of Living WW II Veterans (as of 9/30/2007):	2,911,900			
Number of WW II Veterans Pass Away Per Day:	900			
Percentage of Veteran Population 65 or Older:	39.1%			
Veteran Population by Race:	White 80.0% Asian/Pacific Islander 1.4% American Indian/Alaska Natives 0.8%	Black 10.9% Hispanic 5.6% Other 1.3%		
<b>About VA</b>				
Number of VA Employees:	263,350			
Number of VA Medical Centers:	153			
Number of VA Community-Based Outpatient Clinics (CBOC):	732			
Number of VA Vet Centers:	209			
Number of VBA Regional Offices:	57			
Number of VA National Cemeteries:	125			
FY06 Appropriations (actual) <sup>1</sup>	VA: \$73.6B	VHA: \$31.0B <sup>2</sup>	VBA-GOE: \$1.08B	NCA: \$150M
FY07 Appropriations (enacted) <sup>1</sup>	VA: \$80.2B	VHA: \$34.5B <sup>2</sup>	VBA-GOE: \$1.17B	NCA: \$161M
FY08 Appropriations (enacted) <sup>1</sup>	VA: \$90.0B	VHA: \$39.1B <sup>2</sup>	VBA-GOE: \$1.33B	NCA: \$195M
Produced by Office of Policy and Planning National Center for Veterans Analysis and Statistics (008A3) Source: Veteran Population as of 09/30/07; VA Employ Pay Status Count 03/31/08; Veterans Affairs Site Tracking (VAST) 12/31/07; NCA as of 03/31/08; Office of Budget; Health Services Training Report FY07; <sup>1</sup> Includes MCCF; <sup>2</sup> Medical Care w/ MCCF				

### H.3. Annex C. Implementation Status of Task Force Recommendations

**Table 1: Status of 2003 President's Task Force Recommendations Related to VA and DOD Collaboration and Coordination**

Recommendation, by type and number	Status
<b>Reporting</b>	
1.1 Require the Interagency leadership committee to annually report to VA and DOD Secretaries on task force recommendations and activities	●
<b>Leadership, collaboration, and oversight</b>	
2.1 Broaden the Interagency leadership committee charter beyond health care and have the committee consider using civilian consultants for collaboration	●
2.2 Use a joint strategic planning and budgeting process	●
2.3 Develop joint health care outcome metrics	●
<b>Seamless transition to veteran status</b>	
3.1 Develop interoperable electronic medical records	●
3.2 Require the administration to direct the Department of Health and Human Services (HHS) to declare that VA and DOD are a single health care system for Health Insurance Portability and Accountability Act (HIPAA) purposes	○
3.3 Implement a mandatory single physical examination for servicemembers separating from military service and electronic transmission of separation information	●
3.4 Facilitate a seamless transition to veteran status	●
3.5 Collaborate on collecting and maintaining information on servicemember exposure and hazards	●
3.6 Share routinely information on servicemember assignment history, exposure, and injuries	●
3.7 Conduct surveillance and research on long-term health consequences of military service	●
<b>Removing barriers to collaboration</b>	
4.1 Revise health care system organizational structures to improve coordination and enhance care	●
4.2 Enhance local and regional authority, accountability, and incentives for collaborative health care efforts	●
4.3 Integrate pharmacy initiatives	●
4.4 Allow shared patients to obtain prescriptions at both VA and DOD pharmacies	●
4.5 Standardize medical supplies and equipment identification for joint acquisition	●
4.6 Identify functional areas where the departments have similar requirements for reengineering business processes and information technology to enhance care	●
4.7 Implement facility lifecycle management practices	●
4.8 Develop joint policies and lessons learned on joint ventures	●
4.9 Address staffing shortfalls, develop consistent clinical scopes of practice for nonphysician providers, and ensure interfacing credentialing systems	○

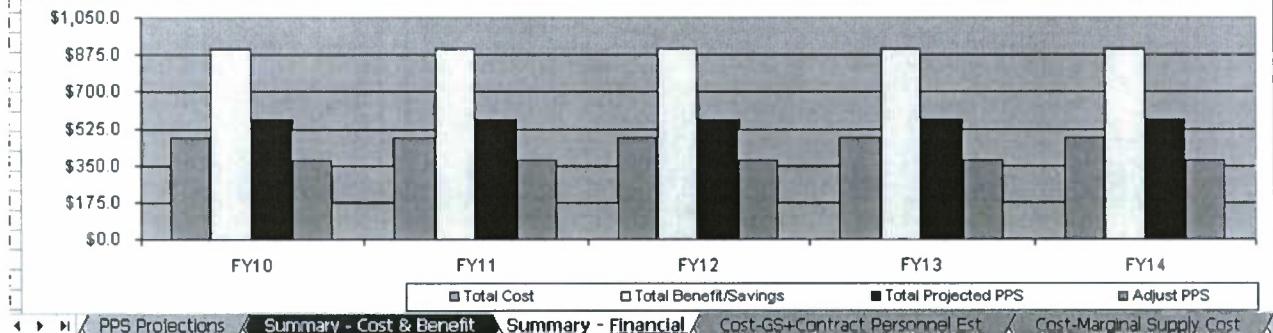
Source: GAO analysis of VA and DOD information and President's task force report.

Legend:

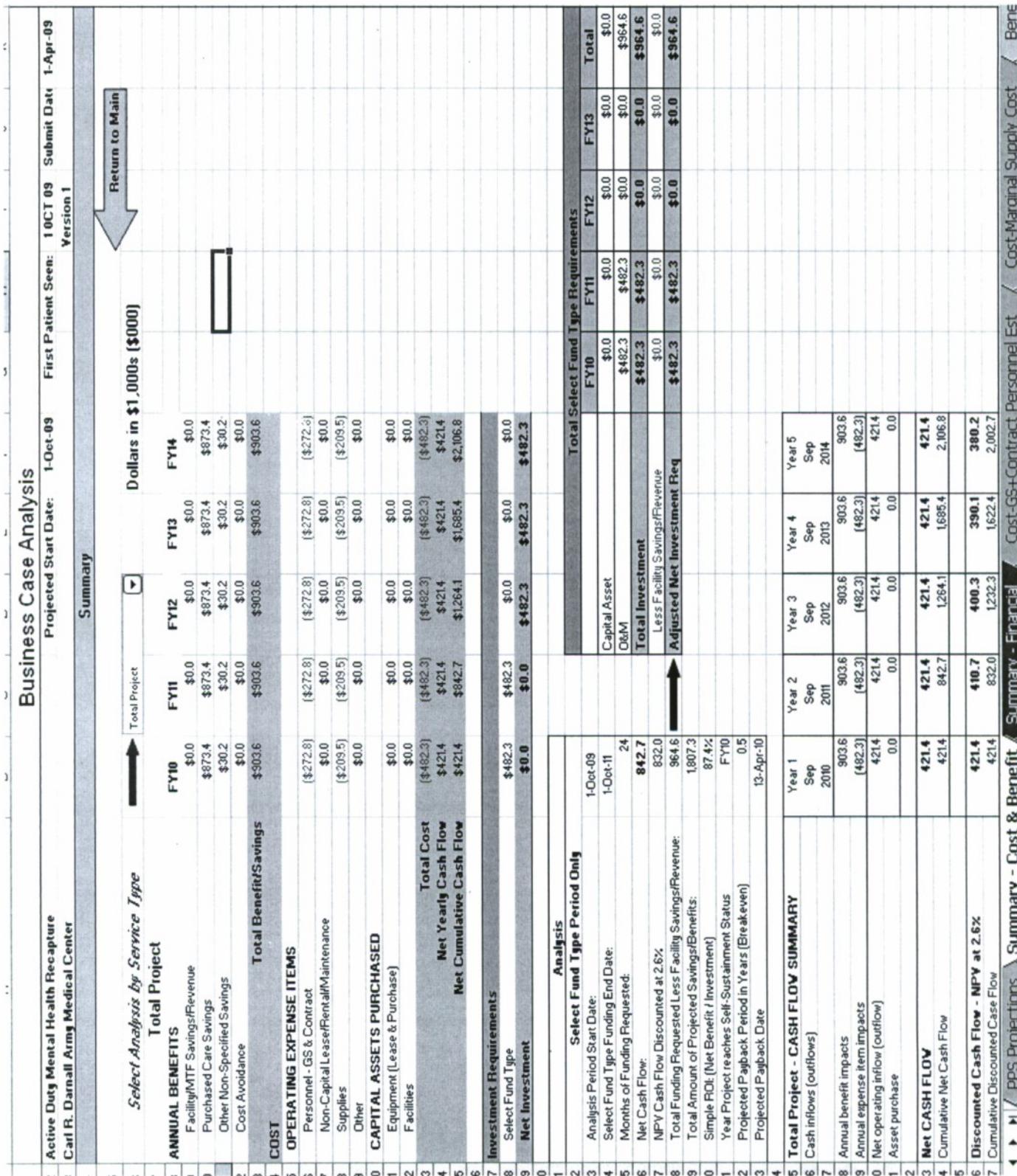
- Fully implemented
- Partially implemented
- No action needed
- ◎ Unable to determine

## H4. Annex D. Financial Summary Data – Increased beds at CRDAMC

<b>Financial Summary</b>																																			
Active Duty Mental Health Recapture Carl R. Darnall Army Medical Center Total Project		Projected Start Date: 1-Oct-09 First Patient Seen: 1 OCT 09																																	
Dollars In \$1,000																																			
<b>COST</b>		<b>FY10</b>	<b>FY11</b>	<b>FY12</b>	<b>FY13</b>																														
<b>OPERATING EXPENSE ITEMS</b>																																			
Personnel - GS & Contract		\$272.8	\$272.8	\$272.8	\$272.8																														
Non-Capital Lease/Rental/Maintenance		\$0.0	\$0.0	\$0.0	\$0.0																														
Supplies		\$209.5	\$209.5	\$209.5	\$209.5																														
Other		\$0.0	\$0.0	\$0.0	\$0.0																														
<b>CAPITAL ASSETS PURCHASED</b>																																			
Equipment (Lease & Purchase)		\$0.0	\$0.0	\$0.0	\$0.0																														
Facilities		\$0.0	\$0.0	\$0.0	\$0.0																														
<b>Total Cost</b>		<b>\$482.3</b>	<b>\$482.3</b>	<b>\$482.3</b>	<b>\$482.3</b>																														
<b>DIRECT &amp; NETWORK ANNUAL BENEFITS</b>																																			
Facility/MTF Savings/Revenue		\$0.0	\$0.0	\$0.0	\$0.0																														
Purchased Care Savings		\$873.4	\$873.4	\$873.4	\$873.4																														
Other Non-Specified Savings		\$30.2	\$30.2	\$30.2	\$30.2																														
Cost Avoidance		\$0.0	\$0.0	\$0.0	\$0.0																														
<b>Total Benefit/Savings</b>		<b>\$903.6</b>	<b>\$903.6</b>	<b>\$903.6</b>	<b>\$903.6</b>																														
<b>Projected Prospective Payment System (PPS) - Army</b>																																			
Outpatient		\$0.0	\$0.0	\$0.0	\$0.0																														
Inpatient		\$0.0	\$0.0	\$0.0	\$0.0																														
Mental Health		\$570.4	\$570.4	\$570.4	\$570.4																														
<b>Total Projected PPS</b>		<b>\$570.4</b>	<b>\$570.4</b>	<b>\$570.4</b>	<b>\$570.4</b>																														
<b>Adjust PPS</b>		<b>\$376.5</b>	<b>\$376.5</b>	<b>\$376.5</b>	<b>\$376.5</b>																														
<b>O&amp;M Factor Adjustment - 66%</b>																																			
<p>The chart displays the following approximate data:</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Total Cost</th> <th>Total Benefit/Savings</th> <th>Total Projected PPS</th> <th>Adjust PPS</th> </tr> </thead> <tbody> <tr> <td>FY10</td> <td>\$482.3</td> <td>\$903.6</td> <td>\$570.4</td> <td>\$376.5</td> </tr> <tr> <td>FY11</td> <td>\$482.3</td> <td>\$903.6</td> <td>\$570.4</td> <td>\$376.5</td> </tr> <tr> <td>FY12</td> <td>\$482.3</td> <td>\$903.6</td> <td>\$570.4</td> <td>\$376.5</td> </tr> <tr> <td>FY13</td> <td>\$482.3</td> <td>\$903.6</td> <td>\$570.4</td> <td>\$376.5</td> </tr> <tr> <td>FY14</td> <td>\$482.3</td> <td>\$903.6</td> <td>\$570.4</td> <td>\$376.5</td> </tr> </tbody> </table>						Year	Total Cost	Total Benefit/Savings	Total Projected PPS	Adjust PPS	FY10	\$482.3	\$903.6	\$570.4	\$376.5	FY11	\$482.3	\$903.6	\$570.4	\$376.5	FY12	\$482.3	\$903.6	\$570.4	\$376.5	FY13	\$482.3	\$903.6	\$570.4	\$376.5	FY14	\$482.3	\$903.6	\$570.4	\$376.5
Year	Total Cost	Total Benefit/Savings	Total Projected PPS	Adjust PPS																															
FY10	\$482.3	\$903.6	\$570.4	\$376.5																															
FY11	\$482.3	\$903.6	\$570.4	\$376.5																															
FY12	\$482.3	\$903.6	\$570.4	\$376.5																															
FY13	\$482.3	\$903.6	\$570.4	\$376.5																															
FY14	\$482.3	\$903.6	\$570.4	\$376.5																															



## **H5. Annex E. Cash Flow Summary – Increased Beds at CRDAMC**



Fiscal Year	Fiscal Month	Parent DMIS ID	Parent DMIS Name	4th Level				4th Level				Occupied				Stepdown			
				Functional Cost Code	Functional Cost Desc	DMIS ID	Name	Admissions	Dispositions	Bed Days	Available FTE	Direct Expense	Purified Expense	Stepdown Expense From D	Stepdown Expense From E	Stepdown Expense From F	Total Summary Expense		
2008	1 0110	DARNALL AMC-FT. AFAA	PSYCHIATRY	0110	DARNALL	73	77	222	23	\$9,883.00	\$107,754.37	\$12,455.82	\$90,248.38	\$220,341.57					
2008	2 0110	DARNALL AMC-FT. AFAA	PSYCHIATRY	0110	DARNALL	41	54	232	1.86	\$12,756.00	\$117,655.12	\$16,956.29	\$69,686.97	\$217,066.38					
2008	3 0110	DARNALL AMC-FT. AFAA	PSYCHIATRY	0110	DARNALL	51	53	219	2.09	\$17,455.00	\$121,794.79	\$13,923.37	\$87,410.04	\$240,563.20					
2008	4 0110	DARNALL AMC-FT. AFAA	PSYCHIATRY	0110	DARNALL	57	63	217	1.84	\$10,062.00	\$127,597.22	\$12,304.71	\$96,309.49	\$246,273.42					
2008	5 0110	DARNALL AMC-FT. AFAA	PSYCHIATRY	0110	DARNALL	53	59	188	1.65	\$15,859.51	\$109,396.05	\$20,413.14	\$91,103.92	\$236,782.62					
2008	6 0110	DARNALL AMC-FT. AFAA	PSYCHIATRY	0110	DARNALL	54	55	289	1.66	\$4,618.10	\$122,676.87	\$16,895.67	\$97,841.03	\$242,031.67					
2008	7 0110	DARNALL AMC-FT. AFAA	PSYCHIATRY	0110	DARNALL	83	83	287	2.24	\$5,420.05	\$135,706.86	\$31,534.98	\$94,564.77	\$267,226.66					
2008	8 0110	DARNALL AMC-FT. AFAA	PSYCHIATRY	0110	DARNALL	65	70	223	2.55	\$8,629.63	\$141,130.52	\$30,557.55	\$99,965.56	\$300,284.26					
2008	9 0110	DARNALL AMC-FT. AFAA	PSYCHIATRY	0110	DARNALL	69	75	223	1.81	\$5,132.29	\$141,677.15	\$44,455.19	\$81,661.31	\$272,965.94					
2008	10 0110	DARNALL AMC-FT. AFAA	PSYCHIATRY	0110	DARNALL	60	66	239	2.76	\$10,425.99	\$142,660.28	\$49,056.98	\$94,717.52	\$296,860.77					
2008	11 0110	DARNALL AMC-FT. AFAA	PSYCHIATRY	0110	DARNALL	71	87	282	1.96	\$8,162.62	\$143,780.06	\$64,548.67	\$82,213.52	\$298,704.87					
2008	12 0110	DARNALL AMC-FT. AFAA	PSYCHIATRY	0110	DARNALL	59	65	236	3.89	\$17,135.27	\$139,599.21	\$40,157.70	\$80,254.75	\$277,146.93					
						736	806	2857	26.61	\$125,549.46	\$1,551,428.50	\$373,260.07	\$1,066,020.26	\$3,116,258.29					

## H6. Annex F. Financial Summary Data – Sharing Agreement w/ CTVHCS

Financial Summary					
Active Duty Mental Health Recapture Carl R. Darnall Army Medical Center Total Project		Projected Start Date: 1-Oct-09 First Patient Seen: 1 OCT 09			
COST	Dollars In \$1,000	FY10 FY11 FY12 FY13 FY14			
		FY10	FY11	FY12	FY14
<b>OPERATING EXPENSE ITEMS</b>					
Personnel - GS & Contract	\$194.7	\$194.7	\$194.7	\$194.7	\$194.7
Non-Capital Lease/Rental/Maintenance	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Supplies	\$86.9	\$86.9	\$86.9	\$86.9	\$86.9
Other	\$12.1	\$12.1	\$12.1	\$12.1	\$12.1
<b>CAPITAL ASSETS PURCHASED</b>					
Equipment (Lease & Purchase)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Facilities	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<b>Total Cost</b>	<b>\$293.7</b>	<b>\$293.7</b>	<b>\$293.7</b>	<b>\$293.7</b>	<b>\$293.7</b>
<b>DIRECT &amp; NETWORK ANNUAL BENEFITS</b>					
Facility/MTF Savings/Revenue	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Purchased Care Savings	\$873.4	\$873.4	\$873.4	\$873.4	\$873.4
Other Non-Specified Savings	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Cost Avoidance	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<b>Total Benefit/Savings</b>	<b>\$873.4</b>	<b>\$873.4</b>	<b>\$873.4</b>	<b>\$873.4</b>	<b>\$873.4</b>
<b>Projected Prospective Payment System (PPS) - Army</b>					
Outpatient	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Inpatient	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Mental Health	\$570.4	\$570.4	\$570.4	\$570.4	\$570.4
<b>Total Projected PPS</b>	<b>\$570.4</b>	<b>\$570.4</b>	<b>\$570.4</b>	<b>\$570.4</b>	<b>\$570.4</b>
<b>Adjust PPS</b>	<b>\$376.5</b>	<b>\$376.5</b>	<b>\$376.5</b>	<b>\$376.5</b>	<b>\$376.5</b>
<b>O&amp;M Factor Adjustment - 66%</b>					
<span style="display: inline-block; width: 25%; text-align: center;">■ Total Cost</span> <span style="display: inline-block; width: 25%; text-align: center;">□ Total Benefit/Savings</span> <span style="display: inline-block; width: 25%; text-align: center;">■ Total Projected PPS</span> <span style="display: inline-block; width: 25%; text-align: center;">□ Adjust PPS</span>					
<span style="font-size: small;">▶ PPS Projections</span> <span style="font-size: small;">◀ Summary - Cost &amp; Benefit</span> <span style="font-size: small;">◀ Summary - Financial</span> <span style="font-size: small;">◀ Cost-GS+Contract Personnel Est</span> <span style="font-size: small;">◀ Cost-Marginal Supply Cost</span> <span style="font-size: small;">◀</span>					

## H7. Annex G. Cash Flow Summary – Sharing Agreement w/ CTVHCS

Business Case Analysis		Projected Start Date: 1-Oct-09	First Patient Seen: 1 Oct 09	Submit Date: 1-Apr-09
		Summary		
Select Analysis by Service Type		Dollars in \$1,000s (\$000)		
Total Project		Total Project		
		FY10	FY11	FY12
		FY13	FY14	
ANNUAL BENEFITS		(\$194.7)	(\$194.7)	(\$194.7)
Facility/MTF Savings/Revenue		\$0.0	\$0.0	\$0.0
Purchased Care Savings		\$873.4	\$873.4	\$873.4
Other Non-Specified Savings		\$0.0	\$0.0	\$0.0
Cost Avoidance		\$0.0	\$0.0	\$0.0
Total Benefit/Savings		\$873.4	\$873.4	\$873.4
COST				
OPERATING EXPENSE ITEMS				
Personnel - GS & Contract		(\$194.7)	(\$194.7)	(\$194.7)
Non-Capital Lease/Rental/Maintenance		\$0.0	\$0.0	\$0.0
Supplies		(\$86.9)	(\$86.9)	(\$86.9)
Other		(\$12.1)	(\$12.1)	(\$12.1)
CAPITAL ASSETS PURCHASED				
Equipment (Lease & Purchased)		\$0.0	\$0.0	\$0.0
Facilities		\$0.0	\$0.0	\$0.0
Total Cost		(\$293.7)	(\$293.7)	(\$293.7)
Net Yearly Cash Flow		\$579.7	\$579.7	\$579.7
Net Cumulative Cash Flow		\$579.7	\$1,739.2	\$2,318.9
Investment Requirements				
Select Fund Type		\$293.7	\$0.0	\$0.0
Net Investment		\$0.0	\$293.7	\$293.7
Analysis				
Select Fund Type Period Only				
Analysis Period Start Date: 1-Oct-09				
Select Fund Type Funding End Date: 1-Oct-11				
Months of Funding Requested: 24				
Net Cash Flow:		\$1,159.5		
NPV Cash Flow Discounted at 2.8%:		1144.8		
Total Funding Requested Less Facility Savings/Revenue:		587.4		
Simple ROI (Net Benefit / Investment)		197.4%		
Year Project reaches Self-Sustaining Status				
Projected Payback Period in Years (Break-even)				
Projected Payback Date				
Total Project - CASH FLOW SUMMARY				
Cash inflows (outflows)				
Annual benefit impacts				
Annual expense item impacts				
Net operating inflow (outflow)				
Asset purchase				
Net CASH FLOW				
Cumulative Net Cash Flow				
Discounted Cash Flow - NPV at 2.6%		579.7	565.0	536.8
Cumulative Discounted Cash Flow		579.7	1144.8	1685.5
Summary - Financial				
► <input checked="" type="checkbox"/> PPS Projections				
► <input checked="" type="checkbox"/> Cost-GS+Contract Personnel Cost				
► <input checked="" type="checkbox"/> Cost-Marginal Supply Cost				
► <input checked="" type="checkbox"/> Cost-T				

Return to Main

Dollars in \$1,000s (\$000)

## H.8. Annex H. M2 Screen Print of Active Duty Direct Care Inpatient Psychiatry

Query Panel - MHS MART (M2) Universe

Classes and Objects	Result Objects	Conditions	Buttons
<input checked="" type="checkbox"/> Eligibility (DEERS/MCFAS) <input checked="" type="checkbox"/> TRICARE Relationships (DEERS) <input checked="" type="checkbox"/> Health Care Services <input checked="" type="checkbox"/> System Production (MEPRS/WVR) <input checked="" type="checkbox"/> M2 Data Status <input checked="" type="checkbox"/> Reference Tables	<input checked="" type="checkbox"/> Bed Days,... <input checked="" type="checkbox"/> RWP, Raw <input type="checkbox"/> Catchmen,... <input type="checkbox"/> DRG <input type="checkbox"/> FY <input type="checkbox"/> Person ID <input type="checkbox"/> FM	<input checked="" type="checkbox"/> Bed Days,... <input checked="" type="checkbox"/> RWP, Total <input type="checkbox"/> Catchmen... <input type="checkbox"/> DRG Desc <input type="checkbox"/> MDC <input type="checkbox"/> Product Li... <input type="checkbox"/> Tmt Pare...	<input checked="" type="checkbox"/> Dispositio... <input type="checkbox"/> Ben Cat C... <input type="checkbox"/> Diagnosis 1 <input type="checkbox"/> Enrollmen... <input type="checkbox"/> MEPRS3 ... <input type="checkbox"/> Dispositio...
<input checked="" type="checkbox"/> FY In list 2004,2005,2006,2007,2008 <input type="checkbox"/> And <input type="checkbox"/> Ben Cat Common Equal to '4' <input type="checkbox"/> And <input type="checkbox"/> Product Line Equal to 'MH' <input type="checkbox"/> And <input type="checkbox"/> Tmt Parent DMIS ID Equal to '0110'			
<input type="checkbox"/> Options... <input type="checkbox"/> Save and Close <input type="checkbox"/> View... <input type="checkbox"/> Run <input type="checkbox"/> Cancel			

## H.9. Annex I. M2 Screen Print of Active Duty Purchased Care Inpatient Psychiatry

X - S E W C

Y Z A B C D

F G H I J K

L M N O P Q

R S T U V W

X Y Z A B C

D E F G H I

J K L M N O

P Q R S T U

V W X Y Z A

B C D E F G

H I J K L M

N O P Q R S

T U V W X Y

Z A B C D E

F G H I J K

L M N O P Q

R S T U V W

X Y Z A B C

D E F G H I

J K L M N O

P Q R S T U

V W X Y Z A

B C D E F G

H I J K L M

N O P Q R S

T U V W X Y

Z A B C D E

F G H I J K

L M N O P Q

R S T U V W

X Y Z A B C

D E F G H I

J K L M N O

P Q R S T U

V W X Y Z A

B C D E F G

H I J K L M

N O P Q R S

T U V W X Y

Z A B C D E

F G H I J K

L M N O P Q

R S T U V W

X Y Z A B C

D E F G H I

J K L M N O

P Q R S T U

V W X Y Z A

B C D E F G

H I J K L M

N O P Q R S

T U V W X Y

Z A B C D E

F G H I J K

L M N O P Q

R S T U V W

X Y Z A B C

D E F G H I

J K L M N O

P Q R S T U

V W X Y Z A

B C D E F G

H I J K L M

N O P Q R S

T U V W X Y

Z A B C D E

F G H I J K

L M N O P Q

R S T U V W

X Y Z A B C

D E F G H I

J K L M N O

P Q R S T U

V W X Y Z A

B C D E F G

H I J K L M

N O P Q R S

T U V W X Y

Z A B C D E

F G H I J K

L M N O P Q

R S T U V W

X Y Z A B C

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J K L M N O

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H I J K L M

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## **H.10. Annex J. List of Acronyms**

APU – Acute Psychiatry Unit

BDOC – Bed days of Care

CRDAMC – Carl R. Darnall Army Medical Center

CPOL – Civilian Personnel Online

CTVHCS – Central Texas Veteran Health Care System

DHP – Defense Health Plan

DoD – Department of Defense

EAS IV – Expense Accounting System (Version IV)

JIF – Joint Incentive Fund

LOS – Length of Stay

MHS – Military Health System

MOA – Memorandum of Agreement

MTF – Military Treatment Facility

NPV – Net Present Value

PICU – Psychiatric Intensive Care Unit

ROI – Return on Investment

TMA – TRICARE Management Activity

VHA – Veteran Health Administration

VISN – Veteran Integrated Service Network

VistA - The Veterans Health Information Systems and Technology Architecture